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## REMARKS

Claims 1-3, 5, 6, 8, 10, 11, 13-15, 17-21, 23 and 25-27 have been amended to more clearly define the invention.

Support for the amendments that indicate the system **initiates** scheduling of a task sequence in response to receiving a "message identifying occurrence of said event" and "determination pre-conditions associated with said task sequence are satisfied" (e.g., of claim 1), is found in the Application on page 8 lines 26-28 and page 12 lines 28-31 and in Figures 2 and 6 and other places. Support for the amendments that indicate the system associates in a repository an "event with a process instance identifier identifying an instance of a process comprising said sequence of tasks" is found in the Application on page 15 lines 5-14 and in Figure 8 and other places. Other amendments are similarly supported by the existing claims, Application description in connection with Figure 2 and other Figures.

## I. Rejection under 35 U.S.C. 102(b)

Claims 1, 2, 9-13, 20-23, 26 and 27 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent 5,692,125 – Schloss et al. These claims, as amended, are deemed to be patentable for the reasons given below.

Amended claim 1 recites in "a system for scheduling a first process, comprising a set of tasks, to be performed by at least one individual to support healthcare delivery, a method for processing an event representing a change in circumstances potentially affecting healthcare delivered to a patient" comprises "associating in a repository, at least one event potentially affecting healthcare delivered to a patient with a sequence of tasks to be performed to support healthcare delivery to said patient; receiving a message identifying occurrence of said event; determining by using said repository, a particular sequence of tasks to be performed, in response to receiving said message identifying occurrence of said event; and initiating scheduling of performance of said particular sequence of tasks by at least one individual in response to receiving said message identifying occurrence of said event and determination pre-conditions associated with said task sequence are satisfied". These features are not shown (or suggested) in Schloss.

The method of amended claim 1 supports "initiating scheduling of performance of said particular sequence of tasks by at least one individual in response

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to receiving said message identifying occurrence of said event and determination preconditions associated with said task sequence are satisfied". The claimed arrangement
initiates scheduling "in response to receiving said message identifying occurrence
of said event and determination pre-conditions associated with said task sequence
are satisfied". This is not shown or suggested in Schloss. This approach is
fundamentally different to the Schloss approach. The claimed arrangement initiates
scheduling of tasks by "determining" a "particular sequence of tasks to be performed,
in response to receiving said message identifying occurrence of said event". It does
this by using a repository "associating at least one "event potentially affecting
healthcare delivered to a patient with a sequence of tasks to be performed to support
healthcare delivery to said patient; receiving a message identifying occurrence of said
event". The claimed system does not schedule tasks until an appropriate event
message is received and pre-conditions for executing the tasks are satisfied.

In contrast, Schloss teaches the fundamentally different approach of initiating scheduling of tasks and subsequently determining if the tasks are still appropriate at a "prepare to perform time" by determining whether to cancel, alter or modify tasks if dynamic conditions associated with the tasks are not satisfied. Specifically, Schloss in the Abstract states in "a scheduling system, events and/or groups of events are checked at a scheduling time to insure that certain fixed conditions associated with the event(s) are satisfied. The events are also checked at one or more times, between scheduling time and a performance time (when the event(s) are to be performed), called ""prepare to perform time(s)." At the prepare to perform time(s), certain dynamic conditions and/or data associated with the events are checked to determine whether the dynamic conditions are satisfied...If one or more of the dynamic conditions are not satisfied, the event(s) are...modified by cancelling, altering or postponing". Note, an event is defined differently in the claimed arrangement to the definition in Schloss. In Schloss an "event" is "any occurrence to be scheduled" (Schloss column 3 line 8) whereas in the claimed arrangement an "event" represents a "change in circumstances potentially affecting healthcare delivered to a patient".

In the Schloss system, "There are fixed conditions that must be honored in scheduling event 1 at the scheduling time 251 (See FIG. 9). These fixed conditions must be checked before event 1 is scheduled 255. These fixed conditions are specified in block 216. Also, there are fixed conditions that must be honored in scheduling event 2 and checked before it is scheduled. These conditions are specified in 226. Fixed conditions are conditions (and/or data) that can be known at scheduling

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time 251 (when the user and/or system defines or redefines the schedule)" (Schloss column 4 lines 30-39). Further, "there are dynamic conditions that must be checked (at a prepare to perform time 252, 258) and honored before performing event 1 at the performance time 256" (column 4 lines 41-43). Consequently, Schloss teaches initiating scheduling a task based on fixed conditions and modifies the tasks schedule at a later "prepare to perform" time. This teaching is in direct contrast to the claimed arrangement which does not schedule tasks until an appropriate event message is received and pre-conditions for executing the tasks are satisfied. Specifically, the claimed arrangement initiates scheduling "in response to receiving said message identifying occurrence of said event and determination pre-conditions associated with said task sequence are satisfied". The claimed arrangement is not shown or suggested in Schloss which teaches a system fundamentally different to that of the claimed arrangement. It is the inefficiency involved in altering and updating healthcare worker schedules because of the need to update scheduling at a "prepare to perform time" that is addressed in the claimed system. The claimed arrangement provides substantial logistical and efficiency advantages in a modern complex healthcare environment (see Application page 5 lines 19-23). Consequently, withdrawal of the rejection of amended claim 1 under 35 USC 102(b) is respectfully requested.

Amended dependent claim 2 is considered to be patentable based on its dependence on claim 1. Claim 2 is also considered to be patentable because Schloss does not show (or suggest) "in response to examining predetermined information and said occurrence of said identified event, substituting at least one of said particular tasks for a task of an existing scheduled task sequence". Schloss nowhere mentions or contemplates "substituting" a task for another task of a workflow.

Dependent claim 9 is considered to be patentable based on its dependence on claim 1. Claim 9 is also considered to be patentable because Schloss does not show (or suggest) the feature combination of claim 1 together with "said event comprises at least one of, (a) an event resulting from action by healthcare personnel, (b) an event generated by an operating process, (c) an event generated by patient monitoring equipment and (d) an event generated by a medical device". Schloss does not suggest such a feature combination and as previously explained, an event is defined differently in the claimed arrangement to its definition in Schloss. In Schloss an "event" is "any occurrence to be scheduled" (Schloss column 3 line 8) whereas in the claimed arrangement an "event" represents a "change in circumstances potentially affecting healthcare delivered to a patient".

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Amended dependent claim 10 is considered to be patentable for reasons given in connection with claim 1 and because of its dependence on claim 1. Claim 10 is also considered to be patentable because Schloss does not show (or suggest) the feature combination involving "receiving information identifying a particular individual task of an existing scheduled task sequence and including the activity of adapting said existing scheduled task sequence by initiating processing of said existing scheduled task sequence from said identified particular individual task in response to occurrence of said event".

Amended independent claim 11 is considered to be patentable for reasons given in connection with claim 1. Claim 11 is also considered to be patentable because Schloss does not show (or suggest) "a method for processing an event representing a change in circumstances potentially affecting healthcare delivered to a patient" comprising "associating in a repository, at least one event potentially affecting healthcare delivered to a patient with a process comprising a sequence of tasks to be performed to support healthcare delivery to said patient; receiving at least one message identifying occurrence of said event and at least one parameter associated with said event; determining by using said repository, whether said identified event is associated with a particular process of a plurality of predetermined processes; providing said parameter to said particular process in response to said determination said identified event is associated with said particular process; and initiating scheduling of performance of said particular process in response to receiving said message identifying occurrence of said event and determination preconditions associated with said task sequence are satisfied".

Amended dependent claim 12 is considered to be patentable based on its dependence on claim 11. Claim 12 is also considered to be patentable because Schloss does not show (or suggest) the feature combination of claim 11 in which "said associated parameter is for use by multiple different process task sequences and is stored at a location available for access by said multiple different process task sequences". Contrary to the Rejection statement on page 4, Schloss provides no 35 USC 112 compliant enabling disclosure in Figure 2, column 3 lines 40-65, column 15 lines 46-53 or elsewhere, of providing global parameters "stored at a location available for access by said multiple different process task sequences".

Amended dependent claim 13 is considered to be patentable based on its dependence on claim 11. Claim 13 is also considered to be patentable because

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Schloss does not show (or suggest) the feature combination including "verifying said associated parameter is compatible with predetermined value criteria as a precondition to providing said parameter to said predetermined process". The claimed arrangement initiates "scheduling of performance of said particular process in response to...determination pre-conditions associated with said task sequence are satisfied". Consequently, "verifying said associated parameter is compatible with predetermined value criteria" is performed prior to "initiating scheduling of performance of said particular process". In contrast, Schloss initiates scheduling only on "fixed conditions" and not in response to such dynamic conditions.

Amended independent claim 20 is considered to be patentable for reasons given in connection with claim 1. Claim 20 is also considered to be patentable because Schloss does not show (or suggest) "a method for processing an event representing a change in circumstances potentially affecting healthcare delivered to a patient" comprising "associating in a repository, at least one event potentially affecting healthcare delivered to a patient with a process instance identifier identifying an instance of a process comprising a sequence of tasks to be performed to support healthcare delivery to a patient; in response to occurrence of an event in a first process, receiving at least one message identifying during said first process and identifying a parameter associated with said event; acquiring said parameter associated with said event and providing said parameter to an instance of a second process identified using said repository; and adapting said instance of said second process by scheduling performance of a particular set of tasks in response to receiving said at least one message". Schloss does not show (or suggest) "associating in a repository, at least one event potentially affecting healthcare delivered to a patient with a process instance identifier identifying an instance of a process comprising a sequence of tasks". Schloss does not recognize or contemplate the use of process instance identifiers (such identifiers identify copies of a process comprising a defined sequence of tasks, for example).

Schloss mentions templates as being "event groups with some omitted information that is provided by a user at scheduling time. Templates are used to facilitate the scheduling of common events and/or event groups" (Schloss column 4 line 66 to column 5 line 7). However, Schloss provides no mention, recognition or discussion of the use of "process instances" or "process instance identifiers". Schloss similarly does not show or suggest "adapting said instance of said second process by scheduling performance of a particular set of tasks in response to receiving said at least one message".

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Amended dependent claim 21 is considered to be patentable based on its dependence on claim 20. Claim 21 is also considered to be patentable because Schloss does not show (or suggest) the feature combination of claim 21 together with "including the activity of receiving an identifier identifying a particular individual task in said second process and wherein said adapting activity comprises initiating processing of said second process from said particular individual task in response to receiving said at least one message identifying occurrence of said event and determination said parameter is within predetermined acceptability criteria". Schloss does not suggest a feature combination as provided by claim 21.

Dependent claim 22 is considered to be patentable based on its dependence on claim 20 and for reasons given in connection with claim 12.

Amended dependent claim 23 is considered to be patentable based on its dependence on claim 20. Claim 23 is also considered to be patentable because Schloss does not show (or suggest) the feature combination involving "sharing data between said first and second process comprising sharing at least one of, (a) an event identifier identifying said event, (b) a process identifier identifying said first process and (c) an identifier identifying a particular instance of said first process". As previously explained an "event" as defined in Schloss comprises "any occurrence to be scheduled" (Schloss column 3 line 8) whereas in the claimed arrangement an "event" represents a "change in circumstances potentially affecting healthcare delivered to a patient". Consequently, Schloss does not suggest a feature combination as provided by claim 23.

Amended independent claim 26 is considered to be patentable for reasons given in connection with claim 1. Claim 26 is also considered to be patentable because Schloss does not show (or suggest) a "system for processing an event representing a change in circumstances potentially affecting healthcare delivered to a patient, said system being for use in scheduling a first process comprising a set of tasks to be performed by at least one individual to support healthcare delivery" comprising "at least one repository associating at least one event potentially affecting healthcare delivered to a patient with a sequence of tasks to be performed to support healthcare delivery to said patient; a communication interface for receiving a message identifying occurrence of said event; an event analyzer for using said at least one repository and for applying predetermined rules to interpret said identified event to determine a particular sequence of tasks to be performed in

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response to receiving said message identifying occurrence of said identified event; and a processor for initiating scheduling of performance of said particular tasks by at least one individual in response to said occurrence of said identified event and determination pre-conditions associated with said task sequence are satisfied".

Schloss does not show (or suggest) "initiating scheduling of performance of said particular tasks by at least one individual in response to said occurrence of said identified event and determination pre-conditions associated with said task sequence are satisfied". Schloss also does not suggest in column 14 lines 62-67 (as relied on in the Rejection on page 6) "an event analyzer for using said at least one repository and for applying predetermined rules to interpret said identified event to determine a particular sequence of tasks to be performed in response to receiving said message identifying occurrence of said identified event". As previously explained an "event" as defined in Schloss comprises "any occurrence to be scheduled" i.e. a task (Schloss column 3 line 8) whereas in the claimed arrangement an "event" represents a "change in circumstances potentially affecting healthcare delivered to a patient". Consequently, Schloss does not suggest a feature combination as provided by claim 26.

Amended dependent claim 27 is considered to be patentable based on its dependence on claim 26. Claim 27 is also considered to be patentable because Schloss does not show (or suggest) the feature combination of claim 27 including "at least one repository" that "associates said at least one event with a process instance identifier identifying an instance of a process comprising said sequence of tasks". As previously explained in connection with claim 20, Schloss does not suggest use of "process instance identifier" or such a feature combination at all.

## II. Rejection under 35 U.S.C. 103(a)

Claims 3, 4, 7, 8, 15-19, 24 and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 5,692,125 – Schloss et al. in view of U.S. Patent 6,401,138 – Judge et al. These claims, as amended, are considered patentable for reasons given in connection with claim 1 and for the following reasons.

Amended dependent claim 3 recites a method in which "said message includes an event identifier identifying said event and is generated by a second process comprising a second set of tasks and including the activity of also receiving an identifier identifying a particular instance of said first process". These features,

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in combination with the features of claim 1, are not shown or suggested in Schloss in combination with Judge.

Schloss with Judge fails to show or suggest use of an "event identifier" identifying an event comprising a "change in circumstances potentially affecting healthcare delivered to a patient". An "event" as used in Schloss is "any occurrence to be scheduled" i.e. a task (Schloss column 3 line 8) and is NOT a "change in circumstances potentially affecting healthcare delivered to a patient". The identifier relied on in Schloss is merely a description of a function. Specifically, "the identifier block 305 is a short character string description of the function of the event 210. For example, in one preferred embodiment, an event 210 would be a requirement to take vitamin B on Mondays, 3 pills. In this case the identifier might be ""VitB 3 M"" (Schloss column 5 line 66 to column 6 line 3). Further, contrary to the Rejection statement on page 7, Judge in column 9 line 13 does not show or suggest use of an "identifier identifying a particular instance" of a process at all. The NT process ID relied on is merely used to identify an application called by a Windows NT operating system. Specifically, "in order to identify the application with which each PCI\_ApplicationC object is associated...the NT process ID, the NT thread ID, and the NT process create time (the values required to uniquely identify an application under NT) are stored in the i\_processId 256, i\_threadId 258, and i\_createTime 260 members, respectively" (Judge column 9 lines 10-17).

Consequently, use of the NT process ID of Judge in combination with the scheduling system of Schloss results in a system for initiating scheduling of tasks and subsequently determining if the tasks are still appropriate at a "prepare to perform time" based on dynamic conditions using an application operating under a Microsoft windows NT compatible system identified with a windows compatible application identifier. There is no suggestion in the combined references of use of an "identifier identifying a particular instance" of a process in combination with use of an "event identifier" identifying an event comprising a "change in circumstances potentially affecting healthcare delivered to a patient". Further, there is no recognition of the specific scheduling problem of inefficiency involved in altering and updating healthcare worker schedules because of the need to update scheduling at a "prepare to perform time" that is addressed in the claimed system. There is also no other reason. or motivation in either reference for providing the claimed feature arrangement. Consequently withdrawal of the Rejection of amended claim 3 under 35 USC 103(a) is respectfully requested.

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Amended dependent claim 4 is considered to be patentable based on its dependence on claims 1 and 3. Claim 4 is also considered to be patentable because Schloss with Judge does not show (or suggest) "said particular instance of said first process comprises a particular use of said process for a specific patient". Contrary to the Rejection statements on page 7, neither Judge nor Schloss alone or together show or suggest use of "an event identifier identifying" a "change in circumstances potentially affecting healthcare delivered to a patient" and that is "generated by a second process comprising a second set of tasks and including the activity of also receiving an identifier identifying a particular instance of said first process" comprising a "particular use of said process for a specific patient". As previously explained neither reference suggests use of such an "event identifier" or such a process "instance" identifier. Judge in column 21 lines 36-45, relied on in the Rejection, shows sharing patient context information between different executable applications and has no relevance to use of an identifier identifying a "particular instance of said first process" for a "particular use of said process" comprising a "set of tasks, to be performed by at least one individual to support healthcare delivery" for a "specific patient" as recited in claim 4.

Dependent claim 7 is considered to be patentable based on its dependence on claim 1 and for reasons given in connection with claims 2 - 4. Claim 7 is also considered to be patentable because Schloss with Judge does not show (or suggest) a system involving a "message" that "includes an event identifier identifying said event and a process identifier identifying a target process to be replaced by a predetermined process comprising said particular tasks". The Rejection on page 8 relies on the erroneous premise that if a process has an identifier it would be obvious to use the identifier to identify a "target process to be replaced by a predetermined process comprising said particular tasks" in the context of the claim arrangement. The Rejection provides no showing or suggestion or motivation in either cited reference for identifying a "target process to be replaced" in any context. These features advantageously enable efficient scheduling of workflow processes in a healthcare environment avoiding the inefficiency of prior processes as exemplified by the Schloss system. There is no recognition of the advantages of the claimed system nor any motivation or other reason for modifying the Schloss and Judge systems alone or together to include the claimed arrangement.

Dependent claim 8 is considered to be patentable based on its dependence on claims 1 and 7 and for reasons given in connection with claims 2-7. Claim 8 is also considered to be patentable because Schloss (in column 5 lines 29-30)

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with Judge does not show (or suggest) a system involving "searching a database containing records indicating active processes and process instances to identify active process instances of said target process to be replaced".

Amended dependent claim 15 is considered to be patentable based on its dependence on claim 11 and for reasons given in connection with claim 7. Claim 15 is also considered to be patentable because Schloss with Judge does not show (or suggest) the feature combination of claim 15 in which "replacing scheduling of performance of another process with said scheduling of performance of said identified process". The Rejection provides no showing or suggestion or motivation in either cited reference, for "replacing scheduling of performance of another process with said scheduling of performance of said identified process". These features advantageously enable efficient scheduling of workflow processes in a healthcare environment avoiding the inefficiency of prior processes as exemplified by the Schloss system. There is no recognition of the advantages of the claimed system nor any motivation or other reason for modifying the Schloss and Judge systems alone or together to include the claimed arrangement.

Dependent claim 16 is considered to be patentable for reasons given in connection with claim 7.

Amended dependent claim 17 is considered to be patentable based on its dependence on claims 11 and 16. Claim 17 is also considered to be patentable because Schloss with Judge does not show (or suggest) "searching a database containing records indicating active processes and process instances to identify active process instances of said target process to be replaced". As previously explained in connection with claims 7 and 8, the Rejection provides no showing or suggestion or motivation in either cited reference for identifying a process to be "replaced" or of identifying "active process instances of said target process to be "replaced". These features advantageously enable efficient scheduling of workflow processes in a healthcare environment avoiding the inefficiency of prior processes as exemplified by the Schloss system. There is no recognition of the advantages of the claimed system nor any motivation or other reason for modifying the Schloss and Judge systems alone or together to include the claimed arrangement. Column 5 lines 29-30 of Schloss relied on in the Rejection on page 9 have nothing to do with replacing processes or active process instances.

Amended dependent claim 18 is considered to be patentable based on

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its dependence on claim 11 and for reasons given in connection with claims 3, 7, 8 and 17. Claim 18 is also considered to be patentable because Schloss with Judge does not show (or suggest) "receiving information identifying active process instances and storing records in a database indicating said identified active process instances".

Amended dependent claim 19 is considered to be patentable based on its dependence on claim 11 and for reasons given in connection with claims 3, 7, 8 and 17. Claim 19 is also considered to be patentable because Schloss with Judge does not show (or suggest) "associating in a repository" an "event with a process instance identifier identifying an instance of said process comprising said sequence of tasks".

Dependent claim 24 is considered to be patentable based on its dependence on claim 20 and for reasons given in connection with claims 3, 7, 8 and 17.

Dependent claim 25 is considered to be patentable based on its dependence on claim 20 and for reasons given in connection with claims 3, 7, 8 and 17. Consequently withdrawal of the Rejection of claims 3, 4, 7, 8, 15-19, 24 and 25 under 35 USC 103(a) is respectfully requested.

## III. Rejection under 35 U.S.C. 103(a)

Claims 5, 6 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 5,692,125 - Schloss et al. in view of U.S. Patent 6,004,276 - Wright et al.. These claims, as amended, are considered patentable for reasons given in connection with claim 1 and for the following reasons.

Amended dependent claim 5 recites a method in which "filtering a plurality of received messages to identify said message identifying occurrence of an event potentially affecting healthcare delivered to a patient and excluding other messages immaterial to said healthcare delivered to said patient". These features, in combination with the features of claim 1, are not shown or suggested in Schloss in combination with Judge based on its dependence on claim 1 and for reasons given below.

As recognized in the Rejection on page 10, Schloss fails to show or suggest "filtering a plurality of received messages to identify said message identifying occurrence of an event potentially affecting healthcare delivered to a

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patient". However, the Rejection erroneously states Wright discloses this limitation in column 42 lines 40-41. Wright in this section states "events may be prioritized to allow filtering and masking during a query" and defines events as "the event type is the type or class of event (user-related, data transfer, etc.), and the event identifier is the event that occurred" (Wright column 39 lines 63-66). Wright therefore uses the term "event" to encompass computer system events such as data transfer etc. Wright also uses the term "event data" to refer to data associated with a cardiac stress test. "The text document segments of a report are generated from pre-test data, event data and post-test data. The pre-test data may include data such as patient demographics and the reason for the test. The event data preferably includes information such as a ten-second ECG analysis and measurements, blood pressure data and comments" (Wright column 65 lines 60-66). Consequently Wright does NOT show or suggest (or provide any 35 USC 112 enabling disclosure) of "filtering a plurality of received messages to identify said message identifying occurrence of an event potentially affecting healthcare delivered to a patient" and "excluding other messages immaterial to said healthcare delivered to said patient".

Incorporating the Wright system filtering in the scheduling system of Schloss results in a system for initiating scheduling of tasks and subsequently determining if the tasks are still appropriate at a "prepare to perform time" involving filtering computer system messages indicating data transfers and the like and does NOT filter "a plurality of received messages to identify said message identifying occurrence of an event potentially affecting healthcare delivered to a patient". There is no suggestion in the combined references of use of an "identifier identifying a particular instance" of a process in combination with use of an "event identifier" identifying an event comprising a "change in circumstances potentially affecting healthcare delivered to a patient". Further, there is no recognition of the specific scheduling problem of inefficiency involved in altering and updating healthcare worker schedules because of the need to update scheduling at a "prepare to perform time" that is addressed in the claimed system. There is also no other reason or motivation in either reference for providing the claimed feature arrangement. Consequently withdrawal of the Rejection of amended claim 5 under 35 USC 103(a) is respectfully requested.

Amended dependent claim 6 is considered to be patentable based on its dependence on claim 1 for reasons given in connection with claims 3, 7, 8 and 17.

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Amended dependent claim 14 is considered to be patentable based on its dependence on claim 11 and for reasons given in connection with claim 5. Consequently withdrawal of the Rejection of claims 1-27 is respectfully requested.

In view of the above amendments and remarks, Applicants submit that the Application is in condition for allowance, and favorable reconsideration is requested.

Respectfully submitted,

Date: 1 December 2004

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